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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,304	12/11/2001	Yao Wang	EMC-01-201	7237

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EXAMINER
ENGLAND, DAVID E

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/017,304	WANG ET AL.
	Examiner	Art Unit
	David E. England	2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 January 2006</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1 – 5, 7, 8, 16 – 18, 20 – 23 and 24 – 28</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1 – 5, 7, 8, 16 – 18, 20 – 23 and 24 – 28</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1 – 5, 7, 8, 16 – 18, 20 – 22 and 24 – 28 are presented for examination.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

3.   Claims 5 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention.

4.   The claim limitation of, "data copying rate" is not disclosed in the specification in a way

for one of ordinary skill in the art to come to a conclusion as to the difference between "data

transfer rate" and "data copying rate". Applicant is asked to amend the claim language to reflect

what is common terminology utilized in their specification.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1 – 5, 7, 8, 16, 18, 20 – 22, 24 – 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colby et al. (6449647) (hereinafter Colby) in further view of Chiou et al. (6792507) (hereinafter Chiou).

7.   Referencing claim 1, as closely interpreted by the Examiner, Colby teaches a method, operable on a computer system, for managing network resources for transfer of data stored on a first data storage system to a second data storage system in a data replication process, the method comprising the computer-executed steps of:

8.   requesting from a server for services on a network, an allocation of bandwidth for data transfer from a first data storage system to a second data storage system over the internet network based on the amount of data to be transferred, (e.g. col. 2, line 65 – col. 3, line 9), wherein the bandwidth allocation is determined based on an estimate of data to be copied and a known time period, (e.g., col. 9, lines 5 – 40 & Table 1);

9.   transferring data in response to the bandwidth allocation from the server based on the request, (e.g. col. 9, lines 5 – 24);

10.   monitoring network traffic characteristics during the data transfer, (e.g. col. 9, lines 5 – 24); and

11.   responsive to the monitored network traffic characteristics, selectively requesting an effect on the bandwidth allocation, (e.g. col. 9, lines 5 – 24), but does not specifically teach

managing network resources for copying data stored on a first data storage system to a second data storage system, wherein each data storage system includes an array of data storage devices on which data involved in the copying is stored; and

12.   copying data.

13.   Chiou teaches managing network resources for copying data stored on a first data storage system to a second data storage system, wherein each data storage system includes an array of data storage devices on which data involved in the copying is stored, (e.g., col. 7, lines 20 – 47 & col. 10, lines 37 – 63, *"update"*); and

14.   copying data, (e.g., col. 10, lines 37 – 63, *"update"*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Chiou with Colby because when the requesting hosts and the target devices are geographically separated as in the Internet environment, their distributed cache scheme implementation may not always produce the desired performance gains due to the data transmission latency across wide area networks, therefore copying data to devices that are geographically closer to requesting hosts lessens the latency of data transferred and bandwidth consumption.

15.   Referencing claim 2, as closely interpreted by the Examiner, Colby teaches the effect requested is to increase bandwidth allocation, (e.g. col. 9, line 36 – col. 10, line 8).

16.   Referencing claim 3, as closely interpreted by the Examiner, Colby teaches the request is in accordance with a Java-based protocol, (e.g. col. 5, lines 28 – 48).

17.   Referencing claim 4, as closely interpreted by the Examiner, Colby teaches the effect

requested is to increase the bandwidth allocation based on not meeting at least one performance

criterion, (e.g. col. 9, line 36 – col. 10, line 8), but does not specifically teach copying data.

Chiou teaches copying data, (e.g., col. 10, lines 37 – 63, *"update"*). It would have been obvious

to one of ordinary skill in the art at the time the invention was made to combine Chiou with

Colby because of similar reasons stated above.

18.   Referencing claim 5, as closely interpreted by the Examiner, Colby teaches the at least

one performance criterion is a predetermined data transfer rate, (e.g. col. 9, line 36 – col. 10, line

8), but does not specifically teach copying data. Chiou teaches copying data, (e.g., col. 10, lines

37 – 63, *"update"*). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Chiou with Colby because of similar reasons stated above.

19.   Referencing claim 7, as closely interpreted by the Examiner, Colby teaches the monitored

internet network traffic characteristics includes information regarding packet latency, (e.g. col. 9,

lines 5 – 35), but does not specifically teach copying data. Chiou teaches copying data, (e.g., col.

10, lines 37 – 63, *"update"*). It would have been obvious to one of ordinary skill in the art at the

time the invention was made to combine Chiou with Colby because of similar reasons stated

above.

20.   Referencing claim 8, as closely interpreted by the Examiner, Colby teaches the monitored

internet network traffic characteristics includes information regarding packet loss, (e.g. col. 9,

lines 5 – 24 & TABLE 1), but does not specifically teach copying data. Chiou teaches copying

data, (e.g., col. 10, lines 37 – 63, *"update"*). It would have been obvious to one of ordinary skill

in the art at the time the invention was made to combine Chiou with Colby because of similar

reasons stated above.

21.   Referencing claim 16, as closely interpreted by the Examiner, Colby teaches the data

replication is carried out in accordance with a replication policy, (e.g. col. 5, lines 29 – 48).

22.   Claims 18, 20 – 22, 24 – 26 and 28 are rejected for similar reasons stated above.

23.   Claims 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colby

and Chiou as applied to claims 1, 9, 16, 18, 19 and 26 above, and in view of Lyon et al.

(6028841) (hereinafter Lyon).

24.   As per claim 17, as closely interpreted by the Examiner, Colby and Chiou do not

specifically teach the replication policy defines replication groups including devices distributed

between the first and second data storage systems and the data replication process is completed

when all devices in the replication groups are synchronized. Lyon teaches the replication policy

defines replication groups including devices distributed between the first and second data storage

systems and the data replication process is completed when all devices in the replication groups

are synchronized, (e.g. col. 6, lines 7 – 15). It would have been obvious to one of ordinary skill

in the art at the time the invention was conceived to combine Lyon with the combine system of

Colby and Chiou because synchronizing all devices would guarantee that all control functions

see identical stimuli.

25.   Claim 27 is rejected for similar reasons as stated above.

Response to Arguments

26.   Applicant's arguments with respect to claims 1 – 5, 7, 8, 16 – 18, 20 – 22 and 24 – 28

have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David E. England whose telephone number is 571-272-3912.

The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David E. England
Examiner
Art Unit 2143

De

DAVID WILEY
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